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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,016	10/31/2003	Thomas Frietsch	200309655-2	7146

22879   7590   08/04/2010
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER
DAILEY, THOMAS J

ART UNIT	PAPER NUMBER
2452	

NOTIFICATION DATE	DELIVERY MODE
08/04/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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DETAILED ACTION

1. Claims 32-48 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection. Specifically, the 35 USC 112 first and second paragraph rejections below.

Claim Objections

3. Claims 32, 35, 38, 39, 40, 43, and 46 recite, "authenticed node" (e.g. claim 32, line 14). The examiner assumes the applicant intended to recite, "authenticated". Appropriate correction is required.

Specification

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 32, for example, recites "A method of discovering that a particular network node having an assigned address has been connected to a computer network," (lines 1-2) and further, "responding to the establishment of the connection of the particular network node to the network by transmitting an initial request from the particular node wherein the assigned address is assigned when the particular node is connected to the network" (lines

5-9). It is unclear how the assigned address is assigned when the node connects to the network, but at the same time the node already has the assigned address when it connects to the network (i.e. lines 1-2), and the applicant has provided no clear basis for this in the specification.

Further, with regards to the specification, if "the initial access request" is interpreted as the access request as described [0044], the access request makes no mention of any assigned address include within it, and such an access request is only in response to a "reconnection," not all connections as the claim states.

However, if the access request is interpreted as the IP address request described in [0038], which includes an assigned address, "the assigned address" in the claim may only be interpreted as the MAC address, i.e. the position of the examiner in this and the previous action, and therefore cannot be "assigned when the particular node is connected to the network."

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first and second paragraphs of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 32-48 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the

application was filed, had possession of the claimed invention.

7. Claim 32, for example, recites "A method of discovering that a particular network

node having an assigned address has been connected to a computer network,"

(lines 1-2) and further, "responding to the establishment of the connection of the

particular network node to the network by transmitting an initial request from the

particular node wherein the assigned address is assigned when the particular

node is connected to the network" (lines 5-9). It is unclear how the assigned

address is assigned when the node connects to the network, but at the same

time the node already has the assigned address when it connects to the network

(i.e. lines 1-2), and the applicant has provided no clear basis for this in the

specification.

Further, with regards to the specification, if "the initial access request" is

interpreted as the access request as described [0044], the access request makes

no mention of any assigned address include within it, and such an access

request is only in response to a "reconnection," not all connections as the claim

states.

However, if the access request is interpreted as the IP address request

described in [0038], which includes an assigned address, "the assigned address"

in the claim may only be interpreted as the MAC address, i.e. the position of the

examiner in the this and the previous action, and therefore cannot be "assigned when the particular nod is connected to the network."

Therefore, it is not reasonably conveyed to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

8. Claims 35, 38, 39, 40, 43, and 46, recite similar limitations to that of claim 32, and are similarly rejected.

9. Claims 32-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 32 recites, "A method of discovering that a particular network node having an assigned address has been connected to a computer network," (lines 1-2) and further, "responding to the establishment of the connection of the particular network node to the network by transmitting an initial request from the particular node wherein the assigned address is assigned when the particular node is connected to the network" (lines 5-9). It is unclear how the assigned address is assigned when the node connects to the network, but at the same time the node already has the assigned address when it connects to the network (i.e. lines 1-2).

11. Claims 35, 38, 39, 40, 43, and 46, recite similar limitations to that of claim 32,

and are similarly rejected.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 32-33, 35-36, 38, 39, 40-41, 43-44, and 46-47 are rejected under 35

U.S.C. 103(a) as being unpatentable over Barnard et al (US Pub. No.

2003/0005100), hereafter "Barnard," in view of Sistanizadeh et al (US Pat.

5,790,548, cited in previous actions), hereafter "Sistanizadeh," and in further view

of the applicant's admitted prior art, hereafter "AAPA," with the citations referring

to the applicant's specification.

14. As to claim 32, Barnard discloses a method of discovering that a particular

network node having an assigned address has been connected to a computer

network including (a) plural nodes, one of which is the particular node, and (b) a

server arrangement including a network portion and a discovery portion

(Abstract), the method comprising:

responding to the establishment of the connection of the particular network

node to the network by transmitting an initial request from the particular node to

the network portion of the server arrangement via the network wherein the

assigned address is assigned when the particular node is connected to the

network ([0074], lines 16-21, printing device on network ("particular node") sends

DHCP discover request ("initial request") to internal DHCP server ("network

portion of server arrangement"), the initial access request including the assigned

address of the particular node ([0074], DHCP discover request ("initial request")

includes MAC address ("assigned address"));

the network portion of the server arrangement responding to the initial access

request by initiating a discovery request and deriving an indication of the

assigned address of the particular node ([0074], lines 30-35);

the network portion supplying the discovery request and the assigned

address of the particular node to the discovery portion only after the network

portion has determined that the particular node is a node of the network ([0074],

lines 30-35, DHCP server supplies MAC address ("assigned address") and IP

address to discovery module ("discovery portion") after printing device ("particular

node") has IP address and therefore has access to the network);

the discovery portion responding to the discovery request applied to the

discovery portion by the network portion by storing the assigned address of the

particular node ([0077], lines 5-15, the IP address is provided so that SNMP may

be used to communicate between network management device and printing

device ("particular node)) and initiating a discovery program that performs a
discovery procedure for the particular node in response to the supplying of the
discovery request and the assigned address of the particular node to the
discovery portion ([0077], lines 11-22, SNMP request (a function of "a discovery
procedure") is sent out which retrieves information from the printing device via its
IP address);

the discovery procedure for the particular node including polling network
topology, the polled network typography including other nodes to which the
particular node is connected, and the configuration of the particular node ([0077],
lines 12-27).

But, Barnard may not explicitly disclose supplying the request and address of
the node after the node is determined to be an authenticed node of the network.
That is, if authentic is interpreted as being more than simply be a part of the
network or accessing the network, but rather requires an authentication process;
Barnard does not explicitly disclose such.

However Sistanizadeh discloses supplying a discovery request and assigned
address of a node only after the node has been determined to be an
authenticated node of the network (column 9, line 62-column 10, line 6, computer
is authenticated via its MAC address in a DHCP request, that request is then
processed by the DHCP server and includes the MAC address ("assigned
address").

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Barnard and Sistanizadeh order to provide greater security to the discovery procedures of Barnard by the means provided for in Sistanizadeh (authentication of computers prior to giving them IP addresses).

But, Barnard and Sistanizadeh may not disclose the polling other nodes in the network to determine network topology. Rather, Barnard appears to poll nodes to determine topology a singular node at a time, subsequent to their discovery.

However, AAPA discloses a discovery procedure including polling nodes in a network to determine network topology, and the polled network topology including at least some of the other nodes to which a particular node is connected, and the configuration of the particular node (Page 1, [0002], "the Open View Network Node Manager product are designed to discover network topology (i.e., a list of all network node in a domain, their type, and their connections), monitor the health of each network node, and report problems to the network administrator… The monitoring function of such a system is usually performed by a specialized computer program which periodically polls each network element and gathers data which is indicative of the network element's health"; page 2, [004] discloses retrieval of configuration information).

Therefore, it would have been obvious to combine the teachings of Barnard and the applicant's admitted prior art (AAPA) in order to obtain a complete real-

time topological representation of all nodes of the network, rather than simply

polling one node at a time as disclosed in Barnard.

15. As to claim 35, Barnard discloses a method of discovering that a particular

network node having an assigned address has been connected to a computer

network including (a) plural nodes, one of which is the particular node, and (b) a

server arrangement including a network portion and a discovery portion

(Abstract), the method comprising:

responding to the establishment of the connection of the particular network

node to the network by transmitting an initial request from the particular node to

the network portion of the server arrangement via the network wherein the

assigned address is assigned when the particular node is connected to the

network ([0074], lines 16-21, printing device on network ("particular node") sends

DHCP discover request ("initial request") to internal DHCP server ("network

portion of server arrangement"), the initial access request including the assigned

address of the particular node ([0074], DHCP discover request ("initial request")

includes MAC address ("assigned address"));

the network portion of the server arrangement responding to the initial access

request by initiating a discovery request and deriving an indication of the

assigned address of the particular node ([0074], lines 30-35);

the network portion supplying the discovery request and the assigned

address of the particular node to the discovery portion only after the network

portion has determined that the particular node is a node of the network ([0074],

lines 30-35, DHCP server supplies MAC address ("assigned address" and IP

address to discovery module ("discovery portion") after printing device ("particular

node") has IP address (i.e. now the printer can communicate with other devices

on the network and has access to the network);

the discovery portion responding to the discovery request applied to the

discovery portion by the network portion by storing the assigned address of the

particular node ([0077], lines 5-15, the IP address is provided so that SNMP may

be used to communicate between network management device and printing

device ("particular node")) and initiating a discovery program that performs a

discovery procedure for the particular node in response to the supplying of the

discovery request and the assigned address of the particular node to the

discovery portion ([0077], lines 11-22, SNMP request (a function of "a discovery

procedure") is sent out which retrieves information from the printing device via its

IP address);

the discovery procedure for the particular node including determining status

information about the particular node ([0077], lines 12-27).

But, Barnard may not explicitly disclose supplying the request and address of

the node after the node is determined to be an *authentic* node of the network.

That is, if authentic is interpreted as being more than simply be a part of the

network or accessing the network, but rather requires an authentication process;

Barnard does not explicitly disclose such.

However Sistanizadeh discloses supplying a discovery request and assigned address of a node only after the node has been determined to be an authenticated node of the network (column 9, line 62-column 10, line 6, computer is authenticated via its MAC address in a DHCP request, that request is then processed by the DHCP server and includes the MAC address ("assigned address").

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Barnard and Sistanizadeh order to provide greater security to the discovery procedures of Barnard by the means provided for in Sistanizadeh (authentication of computers prior to giving them IP addresses).

But, Barnard and Sistanizadeh may not disclose the polling other nodes in the network to determine network topology. Rather, Barnard appears to poll nodes to determine topology a singular node at a time, subsequent to their discovery.

However, AAPA discloses a discovery procedure including polling nodes in a network to determine network topology, and the polled network topology including at least some of the other nodes to which a particular node is connected, and the configuration of the particular node (Page 1, [002], "the Open View Network Node Manager product are designed to discover network topology (i.e., a list of all network node in a domain, their type, and their connections), monitor the health of each network node, and report problems to the network administrator... The monitoring function of such a system is usually performed by

a specialized computer program which periodically polls each network element

and gathers data which is indicative of the network element's health"; page 2,

[004] discloses retrieval of configuration information).

Therefore, it would have been obvious to combine the teachings of Barnard

and the applicant's admitted prior art (AAPA) in order to obtain a complete real-

time topological representation of all nodes of the network

16. As to claims 38, 39, 40, 43, and 46, they are rejected by a similar rationale to

that set forth in claims 32 and 35's rejections.

17. As to claim 33, Barnard discloses the discovery portion receives a sequence of

discovery requests including assigned addresses of various nodes of the network

which have requested access to the network, the discovery portion storing the

assigned addresses of the received request from the various nodes ([0077], lines

12-27 and Fig. 7).

18. As to claims 36, 41, 44, and 47, they are rejected by a similar rationale to that set

forth in claim 33's rejection.

19. Claims 34, 37, 42, and 45, are rejected under 35 U.S.C. 103(a) as being

unpatentable over Barnard in view Sistanizadeh and AAPA in further view of

what was well known in the art as applied to claims 36, 41, 44, and 47, and in

further view of what was well known in the art at the time of the invention.

20. As to claim 34, 37, 42, and 45, Barnard, Sistanizadeh, and AAPA discloses the

invention substantially with regard to the parent claims 36, 41, 44, and 47, and

but do not explicitly disclose the sequence of assigned addresses is stored as a

stack that the discovery portion processes in first-in-first-out order. Barnard's

does not go into specifics as to how the addresses are stored, just that they are.

    Although Barnard does not explicitly suggest the use of a first-in-first-out

order (FIFO) stack, Official Notice is taken (MPEP 2144.01) that using a FIFO

stack as a means to store data was a well-known practice at the time of the

applicant's invention was made, which is deployed to more easily manage

memory operations. Thus it would have been obvious to one of ordinary skill in

the art at the time of the invention to take advantage of a known standard to

modify the teachings Barnard in order to achieve such benefits.

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in

37 CFR 1.136(a).

22. A shortened statutory period for reply to this final action is set to expire THREE
MONTHS from the mailing date of this action. In the event a first reply is filed
within TWO MONTHS of the mailing date of this final action and the advisory
action is not mailed until after the end of the THREE-MONTH shortened statutory
period, then the shortened statutory period will expire on the date the advisory
action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be
calculated from the mailing date of the advisory action. In no event, however, will
the statutory period for reply expire later than SIX MONTHS from the date of this
final action.

23. Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Thomas J. Dailey whose telephone number is
571-270-1246. The examiner can normally be reached on Monday thru Friday;
9:00am - 5:00pm.

24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Thu Nguyen can be reached on 571-272-6967. The fax phone
number for the organization where this application or proceeding is assigned is
571-273-8300.

25. Information regarding the status of an application may be obtained from the

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/T. J. D./
Examiner, Art Unit 2452

/THU NGUYEN/
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